The Design of College Ideological and Political Teaching System Based on Online and Offline Mixed Mode

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Abstract. The current design of the college ideological and political teaching system has a low amount of stored data, resulting in a small teaching range. In order to solve the above problems, a new college ideological and political teaching system based on the online and offline hybrid mode was designed. Using TS-6 flash data memory, the data memory is mainly composed of bus, data interface, single-chip microcomputer, and signal receiving module. The single-chip microcomputer uses a 64 G memory model with an area of 5 mm * 5 mm, which occupies a small area inside the system. It also provides a larger storage space for the data memory to ensure the smoothness of the system. The collector is mainly composed of DSZ6852 chip, clock, data interface and other small parts. DSZ6852 chip adopts 8-channel 16-channel mode to complete data transmission. It has resource video channels, audio channels, text channels, etc. to meet different resource types and improve data. The speed of collection. Realize software workflow through resource transcoding, resource push, online learning, and push information. The experimental results show that the college ideological and political teaching system based on the online and offline hybrid mode has a higher storage capacity and a wider teaching range.

Keywords: Online and offline · Mixed mode · College ideology · Political teaching · Teaching system

1 Introduction

The Internet has become the main tool of the 21st century and is omnipresent in people's daily lives. As the future successors of the motherland, college students have a deeper understanding of the Internet and use it more frequently. At present, colleges and universities are an important area for the development of network technology. Online learning of knowledge, communication of emotions, entertainment and relaxation, the Internet is subtly changing the efficient way of education, affecting the values of college students [1, 2]. In the network environment, how to improve the ideological and political education ability of college counselors has become an urgent problem in the development of college education. The development of network technology has brought

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positive help to the ideological and political education of colleges and universities, but also brought a negative impact. College counselors are a key part of the ideological and political education of colleges and universities. After the advantages of traditional education, expand the ideological and political education environment, provide students with correct college counseling education programs, and open up a new situation in college ideological and political education.

At present, relevant scholars have proposed the design of college ideological and political teaching system, and the literature [3] proposed to combine virtual reality technology with college ideological and political theory courses. The virtual reality teaching group lasts for one month, virtual reality ideological and political theory class teaching, general teaching group or traditional teaching. The comparison shows that the teaching effect of virtual reality teaching is higher than that of traditional teaching. Literature [4] proposes an intelligent campus management system based on the Internet of Things technology. This research uses the unified data collection source of face recognition terminal hardware products based on the Internet of Things technology to perform unified management in the background of the system, and calculate and analyze the data to obtain valuable campus big data.

The new thinking of education and teaching theory points out that learning should be centered on learning, play the initiative of learning, have a desire for active exploration of knowledge, and let learners become active builders of learning knowledge. In order to realize this new educational thought in depth, a hybrid education method of online and offline modes has been introduced in various fields of learning to improve the efficiency of educational learning [5].

Therefore, this article uses the advantages of the online and offline hybrid education system of ideological and political teaching in colleges and universities to further study the education system and promote the development of ideological and political education resources. Optimize the functions of the system hardware area and software area. The hardware part is designed with data storage, collector, and DSZ6852 chip; the software realizes the software workflow through resource transcoding, resource push, online learning, and information push. The online and offline mixed education system of ideological and political teaching in colleges and universities is highly efficient and shared.

2 Hardware Design of College Ideological and Political Teaching System Based on Online and Offline Hybrid Mode

The hardware structure of the Japanese online + offline hybrid educational resource automation selective sharing system designed in this paper is mainly composed of collector and memory. The system hardware structure is shown in Fig. 1 below:

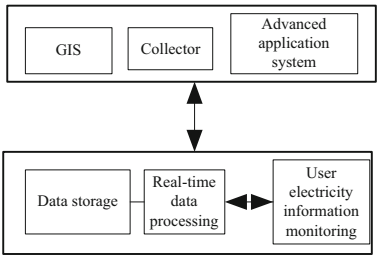

Fig. 1. The hardware structure of college ideological and political teaching system based on online and offline hybrid mode

2.1 Data Memory Design

Data storage is the key to the ideological and political teaching system of colleges and universities based on the online and offline hybrid mode. The work of data storage is to ensure the permanence of resources in the system, because some resources will automatically disappear at a stage, so the data storage must ensure that after the data disappears, Re-upload to the system through the backup information storage.

The data memory structure is shown in Fig. 2:

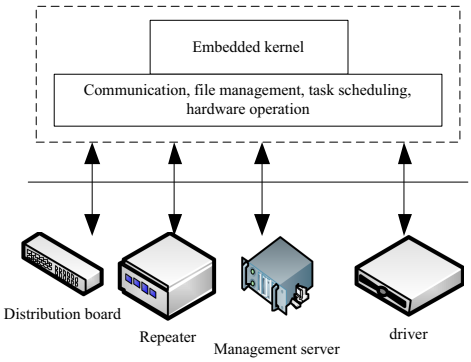

Fig. 2. Data memory structure

In order to realize the functions of the above system, TS-6 flash data memory is adopted. This series of memory is a device with low cost but the most functions in the field at present, and it has a higher cost performance. The advantage of the data memory is that 6 buses are used internally to work simultaneously, and each bus is connected to a different FPGA interface to receive data transmitted in different signal formats. The internal circuit diagram of the memory is shown in Fig. 3:

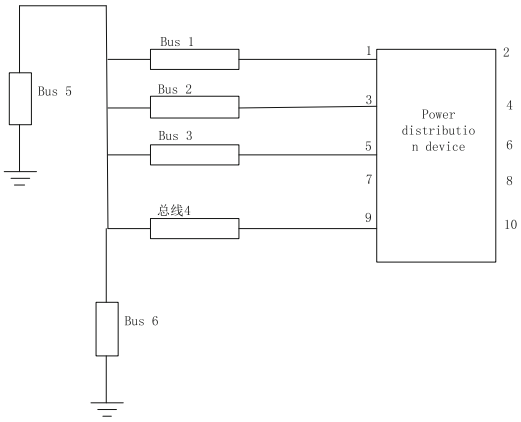

Fig. 3. Memory internal circuit diagram

According to Fig. 3, the interface of bus 1 adopts I/O mode to connect signals, and the link bit width is 52, which can be input and output in a two-way manner to realize the two-way exchange of data; Bus 2 is the OUT connection signal interface, and the link bit width is 84, Output the signal in a one-way manner, and the control signal enters. Bus 3 connects the signal interface with BSC, the link bit width is 16, and the chip select signal is output in a unidirectional manner. Bus 4 is the CLAS connection signal interface, the link bit width is 6, and the signal is input in a one-way manner to realize the signal board selection. Different types of signal input methods are different. Bus 5 is a BUSY interface, the link bit width is 81, and the input mode is busy signal input [6–8]. The data interface of bus 6 is ADD, the link bit width is 27, and the address signal [9] is output in a unidirectional manner.

2.2 Collector Design

The task completed by the data collector in the system is mainly to collect the resources transmitted by the uploader to the system, and then compress the collected resources and transmit them to the server to complete the authenticity identification of educational resources. According to the task of the data collector, it is necessary to ensure the collection speed of data collection and ensure the integrity of the data resources. Therefore, this article uses the HKS-920 data collector, which uses a large capacity battery of 5000 mA and can work in standby mode. 7 days, and the lowest power consumption during work. The internal structure of the collector is shown in Fig. 4:

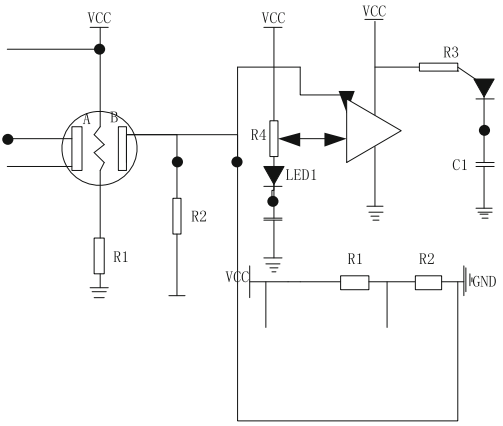

Fig. 4. Collector circuit diagram

The data interface of the data collector is PCI, HPI and Ethernet interface. Each interface is connected to the wireless network of the system and has the function of automatic backup. Once the data is lost during transmission, the backup can be called out. The uplink rate of the interface for data collection is 3.5 Mbit/s, and the downlink rate is 6.7 Mbit/s [10–12].

According to the combination of the operator and the design requirements of the virtual simulation experiment teaching environment, this paper draws a design plan. The ideological and political education system is mainly composed of five distributions of the graph. The ideological and political education system needs to sort out the arrangement of experiment courses and the arrangement of students' course selection. At this time, it will need some distinguishing information such as the operator's class and student number. The amount of data is large and difficult to store. This article uses database processing for storage, which reduces the memory of the experimental teaching multi-dimensional data visualization system. The design of the database concept is the basis for the design of the multi-dimensional data visualization system for experimental teaching. Only a certain operator and certain experimental teaching can make this virtual simulation experiment work. This article uses the database conceptual model ER for these basic information storage and screening operations. The model is completed [13–15].

3 Software Design of College Ideological and Political Teaching System Based on Online and Offline Hybrid Mode

College students' outlook on life, world outlook, and values have been initially formed, but due to lack of social experience and insufficient knowledge of things, it is easy to make wrong judgments. The network environment is complex, and the content involved is rich and diverse. This includes not only positive information, but also negative information. If students browse too much negative information while surfing the Internet, they may be affected by it and cause distortion of the world view. Therefore, it must be Optimize the ideological and political education in online colleges and universities, use online

content to cultivate the moral quality of college students, enhance the professional skills of college students, and improve the practical ability of college students [16–18].

Enrich the content of online moral education, and use the content of education to subtly improve the moral level of students. The Internet is open, unconstrained, and secretive. Users will not be restricted by time and space in the process of communication. This poses a severe challenge to the current ideological and political education of college students. College students are easily affected by the Internet. Affected by all kinds of information on the Internet, counselors have an inescapable responsibility in guiding college students to establish a correct view of social cognition. Counselors must face such problems with a proactive attitude, develop various thematic columns, introduce different cases, and educate students. First of all, we must start with the Internet environment, optimize the students' online environment, strengthen the promotion of Internet morality, and use reward and punishment strategies to strengthen students' self-restraint ability; secondly, set up an online education APP or education website to help through the various modules in the website Students develop a better sense of self-discipline, improve their moral judgment level, so that students can better distinguish external things; finally, optimize the ideological, political and moral education chain, network education and campus education cannot be separated, counselors can use network technology to carry out Campus cultural activities stimulate students' innovative spirit, strengthen students' moral experience, and form a complete chain of ethical cultivating through the combination of online and offline, so that contemporary college students have a stronger sense of responsibility and more self-motivated. Higher creativity, which also has certain advancing significance for shaping a positive, healthy and positive network moral education environment [19–21].

Based on the above analysis of the hardware device design of the ideological and political teaching system based on the online and offline hybrid mode, and the analysis of the concept and significance of the ideological and political online and offline hybrid education methods, this article rationally calls each device to make the online and offline hybrid mode [22, 23]. The ideological and political teaching system of colleges and universities operates stably, and the specific working process of the system is shown in Fig. 5:

(1) First, clarify the hypertext protocol of the computer system to which the system belongs, because different hypertext protocols will transcode the resources in the system, making the resource text format chaotic. After preprocessing the system operating environment, start the operating environment, Make the education resource sharing system in a standby state;
(2) When a learner enters any homepage of the resource sharing platform, the system background will receive a service instruction and the system is in a service state. For beginners, the system will enter the learner's learning interests, identity information and other key information, To facilitate the system to complete selective resource push to learners;
(3) After the learner has registered and completed the system login account, he can enter the system to query the Japanese course he wants to learn according to the learning page. On the system designed in this article, any resource course is two modules online and offline. When the learner clicks on any learning course, the

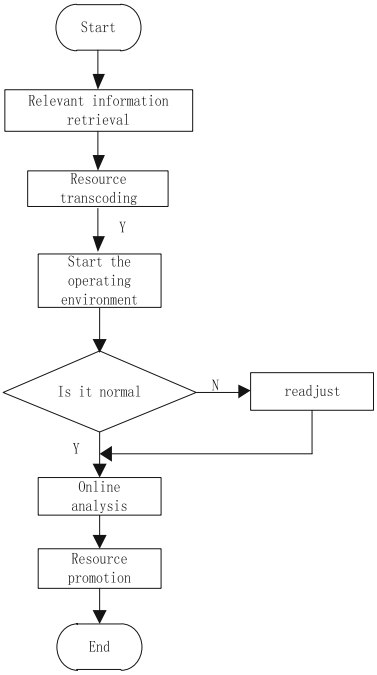

Fig. 5. Work flow of college ideological and political teaching system based on online and offline hybrid mode

system will call up the data of this resource in the data storage and present it to the learner, and then push the same type of course to the learner after the class to complete the teaching task. After learning online, the system will leave learners with offline learning tasks to deepen the learning of Japanese courses;

(4) During the operation of the system, internal resources will be updated in real time to ensure the real-time nature of system resources. Once new educational resources are uploaded to the system, the system's data collector will first check the authenticity of the resources After all qualifications, the resource information is encoded according to the existing types in the system, and stored in the system space by calling the memory, and then selecting a different path to push to each user recorded by the learning, and then converting the resource into a document format. The data is displayed with the correct encoding to complete the information resource sharing work.

The education system should set up a corresponding network ideological education assessment mechanism, take the network ideological and political education assessment mechanism as the assessment goal of college counselors, and construct corresponding commendations and rewards. The assessment content in the assessment mechanism must be updated regularly. The assessment content of ideological and political education in colleges and universities should be carried out from four aspects: the level of the

counselor, the content of the ideological and political education carried out by the counselor, the investment in the ideological and political education of the counselor, and the level of students after the counselor's education. Comprehensive consideration, judge the ideological and political education ability of counselors. Affected by the external environment, the focus of ideological and political education is different, so the content of the network ideological education assessment mechanism should also be updated regularly to keep up with the times to ensure the effectiveness of ideological and political education for college students.

4 Experimental Analysis

In order to verify whether the system studied in this article is meaningful, this article is going to conduct a comparative experiment for verification. In order to achieve the experimental purpose, the control system used in this article is based on the online and offline hybrid mode of college ideological and political teaching system, and jointly complete the experimental analysis of this article. Set the experimental parameters as shown in Table 1:

Table 1. Experimental parameters

Project	Parameter
Hard disk	120 GB
Operating voltage	100 V
Working current	50 A
Operating system	Windows10
Operating time	10 min

In order to ensure the fairness and scientificity of the experiment, this article randomly selects 20 young people with learning ability to complete the experiment. The 20 young people are randomly divided into two groups to learn the same knowledge on different educational resource systems. It is knowledge that the learner has never touched), and finally an exam is conducted according to the learning content, and the average score of each group member is used as the final test data result. The specific test process is to divide the learners into groups and carry out a three-day study, and the study time on different systems is controlled at 3 h a day, and the study is carried out at the same time period to avoid interference from other factors. After days, two exams were conducted, and the test scores of each youth were finally fitted, the data was settled, and the final result of this experiment was obtained.

The experimental results of the amount of data stored in the education system are shown in Fig. 6 below:

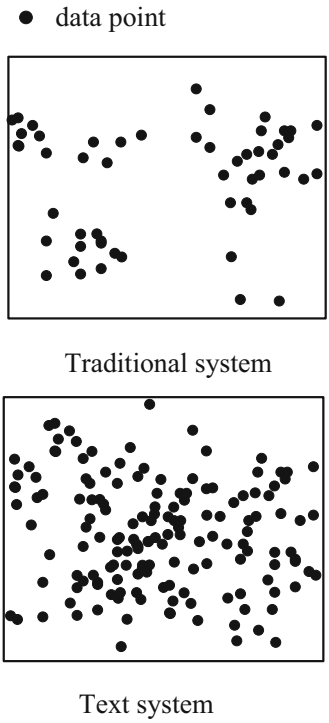

Fig. 6. Experimental results of system storage data volume

The experimental results of the improvement of student performance are shown in Fig. 7 below:

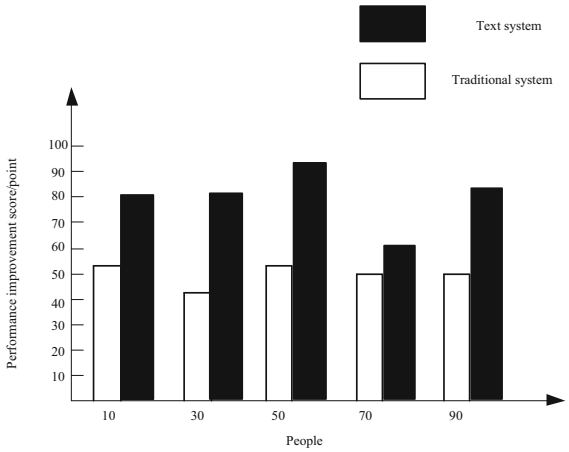

Fig. 7. Experimental results of student performance improvement effects

Through the experiment, the result is that the average performance of the ideological and political teaching system based on the online and offline hybrid mode is higher than the average performance of the ideological and political education resource automation selective sharing system.

Before this experiment was carried out, all possible interference problems from the outside world have been solved, so the authenticity of the experiment results can be guaranteed. On the one hand, this result is because the ideological and political teaching system designed in this paper is based on the online and offline hybrid mode. Sharing function. Before the learners learn the resources, the system will classify the educational resources according to different needs, and gradually teach the learners from simple to difficult, and the system will treat a whole educational resource when entering the resources. For detection, once there is redundant educational resource information or conceptual error or unclear information, the resource uploader will be contacted in time to ensure the sharing, accuracy and selectivity of educational resources in the system. Compared with the traditional educational resource teaching system, the data in the system has a certain degree of redundancy, which will cause a certain amount of knowledge confusion for beginners and affect the learning experience on the educational resource system. On the other hand, the hardware area data memory of the system designed in this paper is assembled by using six types of different buses, and the system adopts online and offline hybrid education to ensure the permanence of the internal resources of the system, online learning, and offline review after class. Form a good learning method and improve learning efficiency. The traditional education sharing system only completes learning on the system, and does not adopt online and offline hybrid education learning methods, and does not have a process to deepen learning resources, which leads to unreliable knowledge of learners and reduces learning efficiency.

5 Conclusion

This article first designs and analyzes the functions of data storage and collectors in the hardware area of the online + offline hybrid education resource automation selective sharing system. Each device has super-powered functions, and then analyzes the online + offline hybrid high-efficiency ideological and political education resources Exploring the essence and significance of the system, and finally based on the above research, summed up the workflow of a highly efficient ideological and political education resource automation selective sharing system based on online + offline hybrid, to achieve the efficiency and sharing of the system, and achieve the design of this article The purpose is to promote the development of efficient ideological and political education resources.

Colleges and universities must set up a guarantee mechanism, use the guarantee mechanism to protect the funds, personnel, venues, and online education of the colleges and universities, so that the resource allocation of colleges and universities can be better optimized, and regular planning and management are required to facilitate college counselors to use existing resources to learn knowledge and improve Self-education ability. In view of the openness of the network environment, it is difficult for network ideological education to divide school education and off-campus education. Therefore, relevant education authorities need to actively promote network ideological and political education

organizations, establish organizational alliances, and optimize the network education environment. Corresponding support will be given so that the ideological and political education promotion system for counselors can be better established, and related ideological and political education projects can be better carried out.

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